

**CITY OF LODI  
INFORMAL INFORMATIONAL MEETING  
"SHIRTSLEEVE" SESSION  
CARNEGIE FORUM, 305 WEST PINE STREET  
TUESDAY, AUGUST 27, 2002**

An Informal Informational Meeting ("Shirtsleeve" Session) of the Lodi City Council was held Tuesday, August 27, 2002 commencing at 7:05 a.m.

**A. ROLL CALL**

Present: Council Members – Hitchcock (arrived at 7:10 a.m.), Howard, Land, Nakanishi, and Mayor Pennino

Absent: Council Members – None

Also Present: Deputy City Manager Keeter, City Attorney Hays, and City Clerk Blackston

**B. CITY COUNCIL CALENDAR UPDATE**

City Clerk Blackston reviewed the weekly calendar (filed).

**C. TOPIC(S)**

C-1 "White Slough Water Pollution Control Facility Improvements Update"

Public Works Director Prima recalled that it had been over a year and a half since staff had spoken to Council in detail about the wastewater facility. He introduced staff that were present and representatives of West Yost & Associates.

With the aid of overheads (filed), Bruce West, Principal with West Yost & Associates, described the current facility. He explained that during the irrigation season, throughout the spring and summer, the plant effluent is used on site for irrigation on City-owned property. During the remainder of the year there is discharge of all or part of the effluent into Dredger Cut. West Yost & Associates was retained in 1999 to perform wastewater master planning and regulatory assistance with the City, and in late 1999 it had completed draft findings. An update on the preliminary findings and recommendations from the master plan were discussed at six public advisory committee meetings and three City Council meetings. The master plan was finalized and published in January 2001. One of the recommendations was to look for an alternate outfall location. The current point of discharge is infeasible to meet the discharge limits that are already imposed, and those likely to be imposed in the future. Additional recommendations were to look at alternate methods of disposing wastewater and that percolation disposal be considered as a viable option. A pilot study has been completed that provided information on how the ground and soil types around Lodi assimilate wastewater. West Yost began pre-design of improvements to the wastewater plant late last year. It was found that a membrane bioreactor treatment process was not financially feasible.

Mr. West reported that in February 2000 Lodi was issued a new permit by the Regional Board that required filtration and a number of other requirements for the current point of discharge. Among the requirements is maintaining dissolved oxygen in the receiving waters of five milligrams per liter, which is virtually impossible at the City's current point of discharge. In May 2000 the State implementation plan was adopted with landmark regulatory changes that required dischargers throughout the state to not only meet the conventional treatment standards of Biochemical Oxygen Demand (BOD) and suspended solids, but also to begin complying with very low standards for certain trace toxics.

In reply to questions posed by Council Member Land, Mr. West explained that even without wastewater being discharged into Dredger Cut, the dissolved oxygen in the receiving water drops below the limit of five parts per million. In essence, this means that the City cannot discharge there or it would be in automatic violation. Dissolved oxygen in

the water is a measure of the quality of the receiving water. Organic constituents in the water demand oxygen. If the water is polluted there is a good chance that the dissolved oxygen will be depressed. The dissolved oxygen limits that are being imposed on receiving waters are primarily a measure to monitor and control discharges. The State does not want the City to discharge additional organics that would drive the dissolved oxygen even lower.

Mr. West reported that in April 2001 the Department of Health Services promulgated new guidelines on recharge of wastewater into groundwater aquifers. It is believed that those requirements will likely be applied to percolation disposal. Projects that intentionally recharge groundwater with wastewater effluent stand a high potential of needing advanced treatment, and likely still will not be able to meet regulatory requirements in the long term.

The City of Stockton received its new permit in early 2002, which Mr. West stated was significant to Lodi in terms of treatment on dilution. He explained that Lodi will likely not be able to meet the requirements of future permits without dilution credits in the receiving water. West Yost will be proposing that the City move the point of discharge into Bishop Cut. Mr. West reported that the State implementation plan establishes statewide standards for toxics and trace constituents in wastewater. The toxic constituent of concern is trihalomethane, which is an artifact of chlorine. It is being regulated for discharge into the Delta. This may drive the project to do away with chlorination at the plant and to implement ultraviolet disinfection, which is a more capital intensive process. The need for data will increase and trigger unprecedented treatment levels that will be required over time. The maximum schedule for compliance that the regulators can grant is five years.

Referencing the master plan, Mr. West stated that it had planned for facilities through an average flow of 8.5 million gallons per day, and assuming a 1.5% growth rate, this is projected to occur in Lodi by 2020. He stated that the master plan included the following recommendations/options:

- Some improvements to the headworks facility
- Expansion to the aeration systems
- A new secondary clarifier
- Upgrades to the chlorination system
- A new digester

Mr. West reported that the cost of facilities to upgrade the secondary processes at the plant was estimated at \$16 million. Subsequent to the completion of the master plan, additional data at the plant indicate that loadings have increased from 20% to 35%. This will affect some of the costs and recommendations, particularly those related to the aeration process.

In answer to Council Member Howard, Mr. West confirmed that the increase in loadings began in 2000 and data indicates that the increase has been sustained since that time. This information is derived from sampling locations at the plant. He noted that the location of where the samples are being collected has changed; however, he did not believe this had any effect on the increase in loadings.

Mr. West reported that the City's current outfall location of Dredger Cut is a stagnant water body with little dilution. The dissolved oxygen in Dredger Cut is typically less than five milligrams per liter and consequently is not a place where the City should continue to discharge effluent. He stated that it is unlikely that effluent limits could be reliably met at Dredger Cut even with improved tertiary treatment. Mr. West stated that three alternatives were selected at the conclusion of the master plan:

1. Percolation disposal with winter only discharge. This alternative would try to maximize the dilution available by discharging to the surface water only when flows are relatively high in the Delta and would percolate dispose most of it in the summer months on land.

2. A percolation only disposal option would require 400 acres of percolation basins. This would eliminate discharge to surface water, but would increase the possibility of contaminate flow into the groundwater.
3. a) Discharge to Bishop Cut with advanced treatment; b) wetlands; and c) a new outfall location where more dilution could be achieved.

Mr. West stated that the study for percolation disposal was completed one year ago and the findings were disappointing. The study indicated that at least 600 to 800 acres would be required for full-scale application. West Yost now recommends that percolation not be the primary alternative. In March 2001 a surface water discharge permit for discharge to Bishop Cut was filed. To date the Regional Board has not responded in writing; however, during meetings communications indicated that they believe filters will be required for effluent being discharged to Bishop Cut, due to agriculture intakes in the area. Mr. West stated that dilution credits will not be available unless the City has metered flow data. He reported that the City will be installing a flow meter in Bishop cut later this year and eventually there will be a need for other studies to confirm dilution.

Mr. West clarified that the measures now proposed in the project are to expand the secondary treatment process. He provided the following recommendations/options and cost estimates:

- Surface water discharge to Bishop Cut with installation of outfall pipe discharging into this location (\$1 to \$2 million)
- Filtration (\$8 to \$10 million)
- Ultraviolet disinfection allowing the City to reuse effluent (\$6 to \$8 million)
- Providing treatment in 130 acres of wetlands to remove the trace toxics (\$4 to \$5 million)

The interim project includes initial blower and diffuser upgrades and some polymer additions into the secondary process at a cost of \$1.3 to \$1.6 million. The long-term project of constructing a major expansion is estimated at \$35 to \$45 million, and is projected to occur in 2004-06. Necessary steps in the process will include:

- Preparation of an environmental document
- Pre-design of the facilities including the wetlands and filtration
- Flow data and tracer study work to support dilution credits in Bishop Cut
- Preparation of draft revenue program
- Submittal of revised permit application for discharge to Bishop Cut, including filters and wetlands
- Design and construction of facilities

Mr. West added that continuing to land apply effluent and store it during the irrigation season will be part of the long-term solution for Lodi. He noted that the litigation currently underway will likely affect future permits; however, he believed that the facilities recommended will be needed regardless of the litigation outcome.

Mr. West commented that a state revolving fund low-interest loan program is available at 2.6% interest with a 20-year pay back. In conclusion, Mr. West stated that the final report related to conclusions about degradation and contaminants in the City's groundwater is over a year away.

Mr. Prima reported that staff has made initial contact with property owners to inquire about their interest in selling a portion of their land. He emphasized to Council that any expansion the City may want to do in terms of biosolids application on land would need a lot more detailed work and analysis to prove that it is not going to degrade the groundwater. The proposed sports complex would remove 400 acres of land that the City has applied biosolids to, and will need to replace, if the project moves forward. He expressed concern about groundwater issues and noted that preliminary data indicates a problem with nitrate.

Council Member Land stated that costs associated with some of the secondary improvements related to air treatment should be covered by developers.

In response to Council Member Land, Mr. Prima explained that the membrane filter provided an opportunity for improved effluent quality; however, it was not financially feasible with an operating cost of \$500,000 a year.

Council Member Nakanishi inquired about potential rate increases.

Mr. Prima reported that a certain amount of the project can be funded through connection fees for new development, although the majority of the cost will be paid through increased rates.

Mayor Pro Tempore Hitchcock suggested that this topic be reviewed in detail at a regular City Council meeting with a clear notice that rates will be discussed.

In reply to Ms. Hitchcock, Mr. Prima explained that treated effluent, biosolids, and industrial waste is currently being discharged to land. If the proposed sports complex project is approved, only tertiary treated domestic effluent could be applied to that land.

Mayor Pennino asked Mr. Prima to provide Council with another copy of the report he produced regarding the history of flows, BODs, and suspended solids, as well as a projection through the year 2020 or 2025 and how it ties into the City's growth. He believed that planning should be done without consideration of the proposed ProStyle Sports Complex, because a formal application has not yet been received on the project. He stated that consideration should be made pertaining to Eight Mile Road and the impact it will have on the City's facility. He suggested that a partnership be pursued to help fund the expansion project, such as with Flag City. He asked whether all alternatives have been considered, including privatization.

Mr. Prima reported that over the course of the master plan staff considered many alternatives and are considering the possibility of doing a design build for tertiary filters.

Council Member Howard expressed concern about partnering with the County. She believed it to be critical that the plant stay a part of the City of Lodi, and not over the years be used and eventually engulfed by the County. She emphasized the importance of securing the rights to the wastewater treatment plant.

Council Member Nakanishi did not believe it was necessary to consider privatization at this time.

**D. COMMENTS BY THE PUBLIC ON NON-AGENDA ITEMS**

None.

**E. ADJOURNMENT**

No action was taken by the City Council. The meeting was adjourned at 8:38 a.m.

ATTEST:

Susan J. Blackston  
City Clerk

## Mayor's & Council Member's Weekly Calendar

### WEEK OF AUGUST 27, 2002

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#### Tuesday, August 27, 2002

- 7:00 a.m. Shirtsleeve Session  
1. White Slough Water Pollution Control Facility Improvements Update (PW)
- 3:00 – 6:00 p.m. Reception to announce the appointment of Dr. Raul Rodriguez as Superintendent/President of San Joaquin Delta College, L.H. Horton Jr. Gallery ~ Shima Center, Stockton.
- 6:30 p.m. **Pennino, Hitchcock, and Land.** Lodi Sister City Committee Membership Appreciation Annual Picnic, Parson's Point at Lodi Lake Park.
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#### Wednesday, August 28, 2002

- 7:00 a.m. Business for Breakfast, Wine and Roses ~ Ballroom, Lodi.
- 5:30 p.m. Lessons in Leadership & Life – Recognition of Bill Dauer, book release reception and signing, Wine and Roses, Lodi.
- 6:00 p.m. **Land.** Lodi Station Parking Structure Grand Opening, corner of Pine and Sacramento Street, Lodi.
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#### Thursday, August 29, 2002

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#### Friday, August 30, 2002

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#### Saturday, August 31, 2002

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#### Sunday, September 1, 2002

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#### Monday, September 2, 2002

- Reminder City Hall closed for Labor Day.

**Disclaimer:** This calendar contains only information that was provided to the City Clerk's office

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## CITY OF LODI

## COUNCIL COMMUNICATION

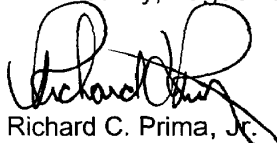
AGENDA TITLE: White Slough Water Pollution Control Facility Improvements Update

MEETING DATE: August 27, 2002 (Shirtsleeve Session)

PREPARED BY: Public Works Director

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Attached are the slides that will be presented at the Tuesday, August 27, 2002, Shirtsleeve Session.



Richard C. Prima, Jr.  
Public Works Director

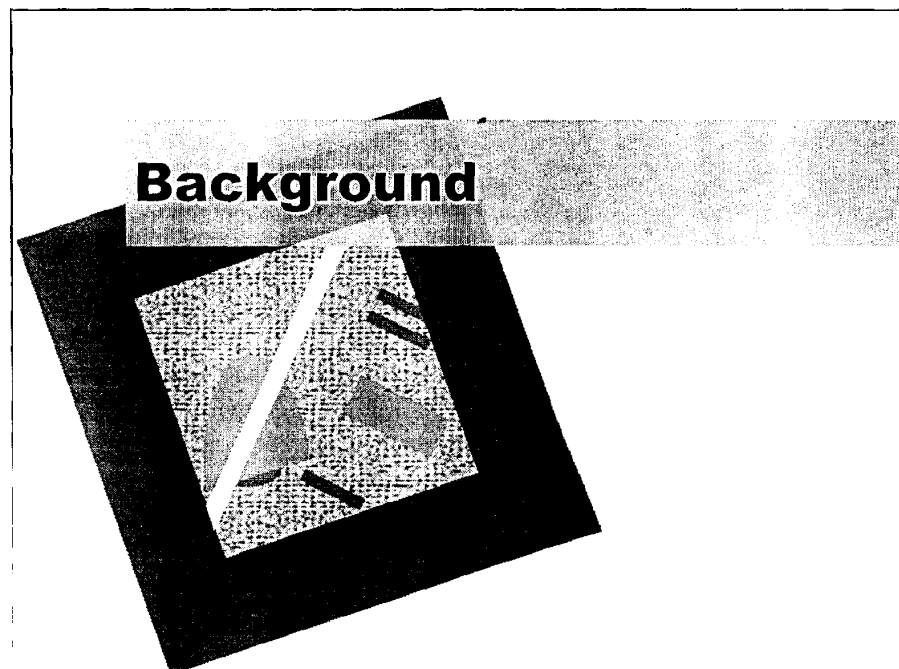
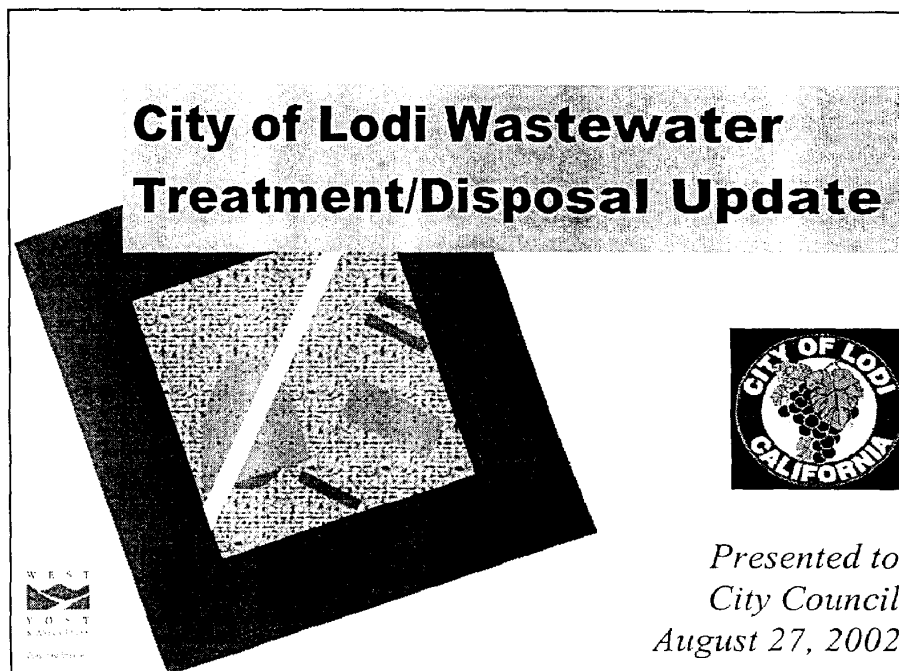
RCP/lm

Attachments

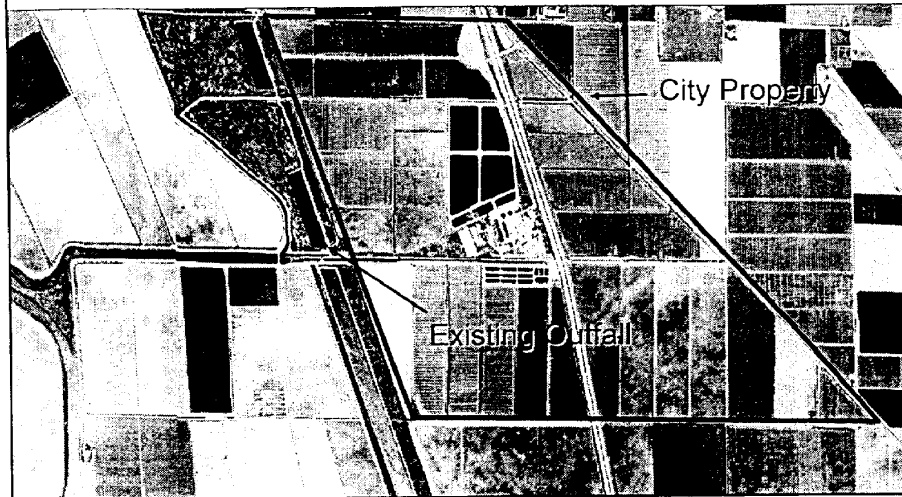
cc: Fran Forkas, Water/Wastewater Superintendent  
Del Kerlin, Assistant Wastewater Treatment Superintendent

APPROVED: \_\_\_\_\_

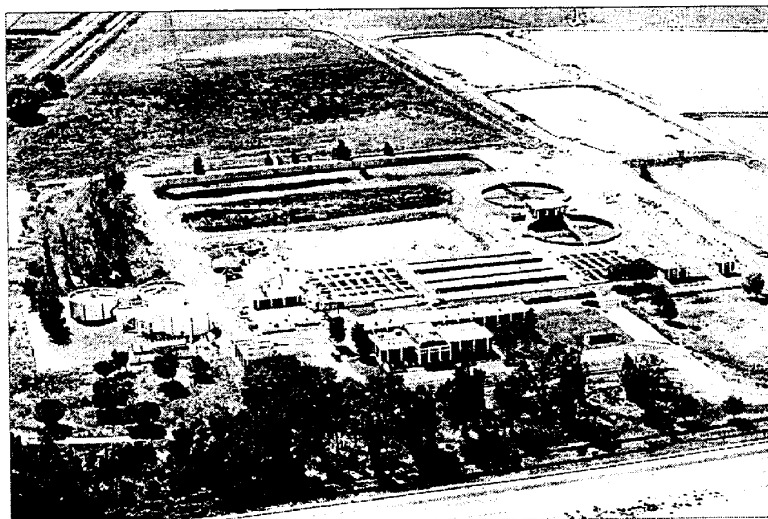
H. Dixon Flynn -- City Manager



## Existing Site



## Existing Treatment Facilities





## Chronology of Work

January 1999 - WYA retained to develop treatment plant master plan and for regulatory assistance  
August 1999 to October 2000 – Draft findings/ presentations to public advisory committee(6) and City Council (3)  
January 2001 - Final Wastewater Master Plan  
January 2001 - Began alternative outfall investigation/ discussions with RWQCB  
January 2001 - Initiated percolation study of potential disposal sites  
September 2001 - Began pre-design of improvements to existing treatment process  
March 2002 - Completed feasibility study of membrane bioreactor treatment process

## Chronology of Regulatory Actions

- February 2000: Existing permit adopted
- May 2000: State Implementation Plan (SIP) adopted
- Several Permits Adopted in 2000 and 2001 Enforcing SIP Policy
- April 2001: New groundwater recharge requirements proposed by DHS
- May 2002: RWQCB adopts the tentative permit for Stockton, which does not allow dilution credits for some criteria

## **State Implementation Plan (May 2000)**

- Establishes a Statewide Standard Approach for Permitting Discharges of Toxic Pollutants (CTR Criteria)
- Greatly Expands the Data Requirements for NPDES Permit Development
- Triggers Unprecedented Treatment Plant Effluent Standards
- Establishes a Schedule for Achieving Compliance with New Standards (up to 5 years)

## **Master Plan Report**

## Master Plan Report Sections

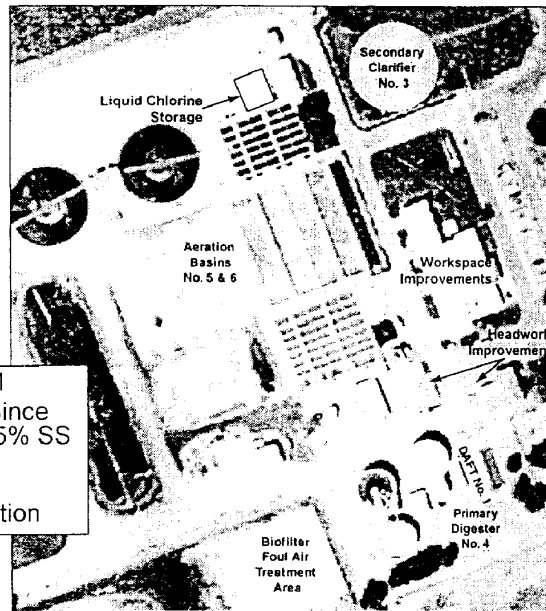
1. Executive Summary
2. Introduction
3. Flow & Loading Projections
4. Anticipated Discharge Requirements & Issues
5. Compliance with Anticipated Discharge Requirements
6. Evaluation Criteria
7. Wetlands Treatment
8. Industrial Wastewater Treatment & Disposal/Reuse
9. Biosolids Disposal/Reuse Alternatives
10. Alternatives for Effluent Land Treatment, Reuse & Storage
11. Treatment Plant Upgrade & Expansion Alternatives
12. Odor Control
13. Combined Treatment & Disposal/Reuse Alternatives
14. Recommended Wastewater Program

## Master Plan Conclusions

- Recommendations for Secondary Improvements Common to All Disposal Options
- Three Potential Disposal/Advanced Treatment Options
- Outlined Future Work

**Master Plan  
Recommended  
Primary/  
Secondary  
WPCF  
Improvements  
to 8.5 mgd  
(2020)**

- Project Cost: \$16 M
- Recent Changes: Since 2000, 20% BOD, 35% SS loading increase
- Regulatory Change Related to Chlorination



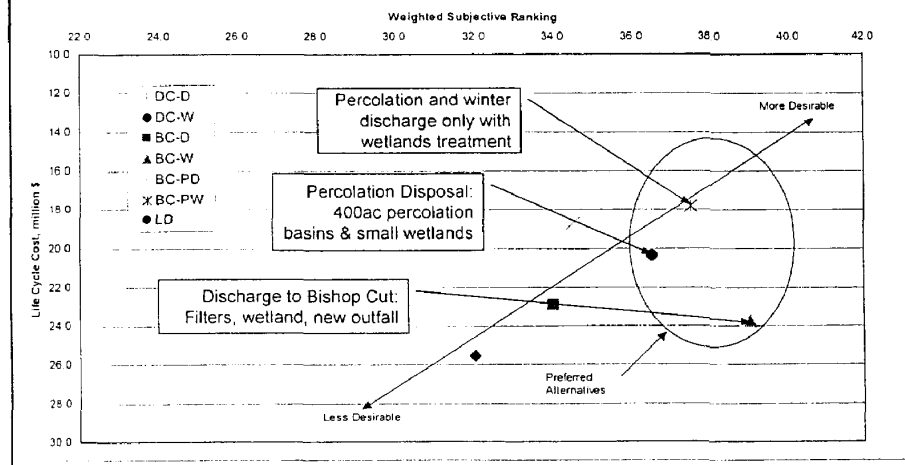
**Current Dredger Cut  
Outfall Location**



## City of Lodi WPCF: Discharge Issues

- Discharge Is to a Dead-End Slough with No Dilution
- Drinking Water Beneficial Use Dictates Stringent Effluent Limits for Priority Pollutants
- Agricultural Beneficial Use Dictates Title 22 Tertiary Treatment
- Effluent Limits Cannot Be Reliably Met Even with Improved Treatment Facilities

## Comparison of Major Alternatives



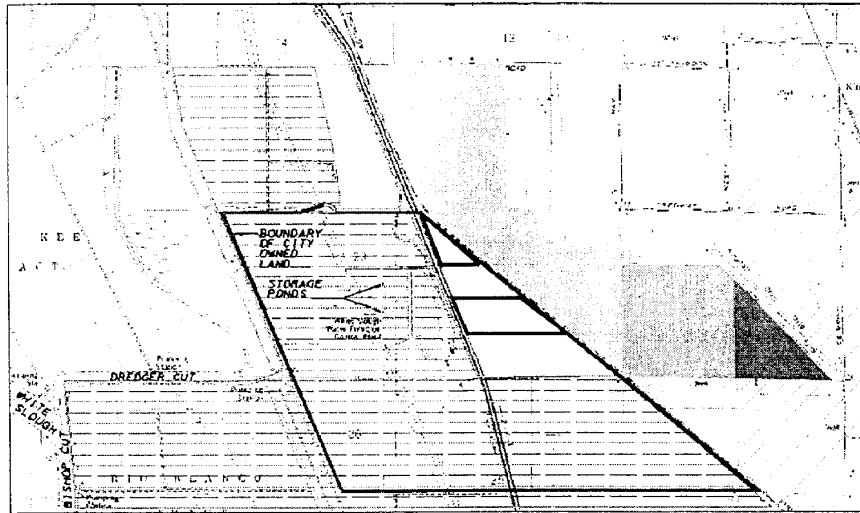
## **Additional Master Plan Recommendations**

- Perform Pilot Testing of Winter Percolation Discharge
- Submit Application to Regional Water Quality Control Board for New Discharge Permit for Both Discharge to Bishop Cut and Winter Percolation
- Begin Discussions about Purchasing or Otherwise Obtaining Operating Control of Land Needed for Alternative Implementation
- Continue Public Participation Process

## **Evaluation of Disposal Alternatives**



## Percolation Disposal Pilot Study



## Percolation Study

- Completed October 2001
- Soil Infiltration Limited Percolation
- Master Plan Estimated 400 Acres Required
- Pilot Study Concluded 600 to 800 Acres Required (additional \$3 to \$6 million)
- Changes to Groundwater Regulations: Tertiary Filtration Likely & Compliance Uncertain
- Long Term Groundwater Contamination Potential
- Percolation Disposal Not Preferred Alternative Due to Regulatory Uncertainty and Cost

## **Regulatory Negotiations**

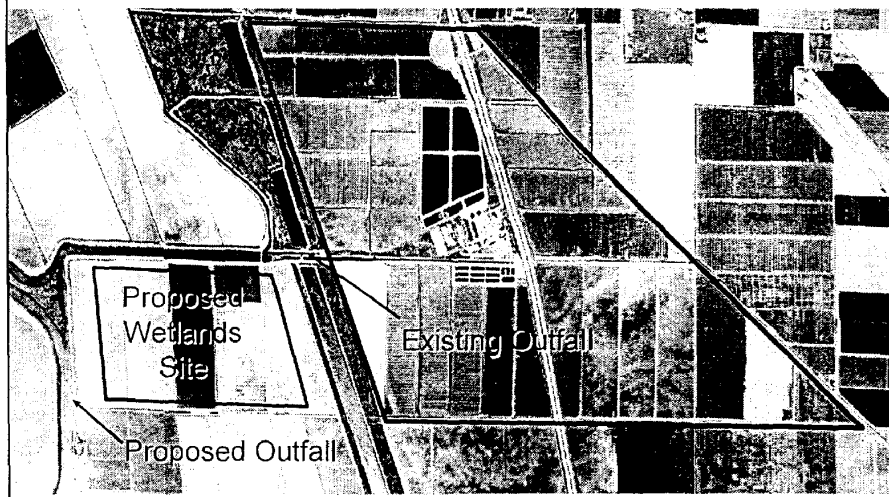
- Surface Discharge Application to RWQCB (March 2001)
- Informal Response: Filters required
- Continued Negotiations: Dilution in Bishop Cut

## **Measures Proposed to Respond Discharge Issues**

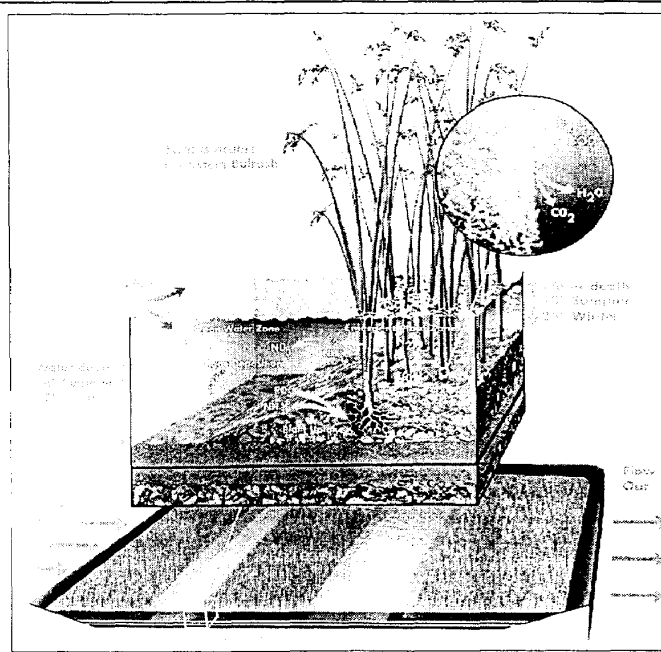
- Expand Secondary Treatment Process
- Provide Title 22 Filtration/Disinfection
- Move Outfall to Location with More Dilution
- Maximize Summer Reuse/Storage
- Treatment in Outfall Wetlands



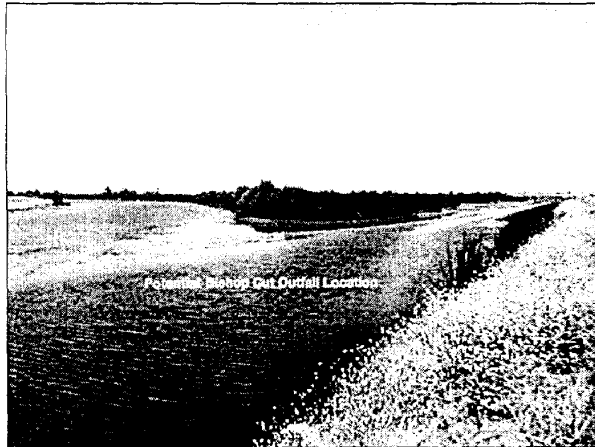
## City of Lodi: Proposed Reuse and Disposal Schematic



## Typical Wetlands

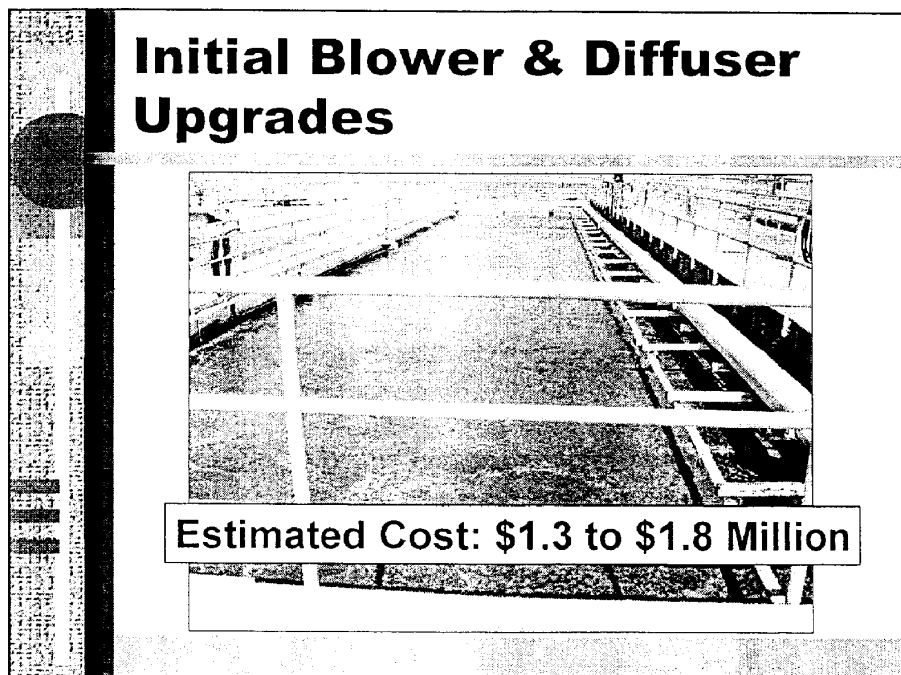
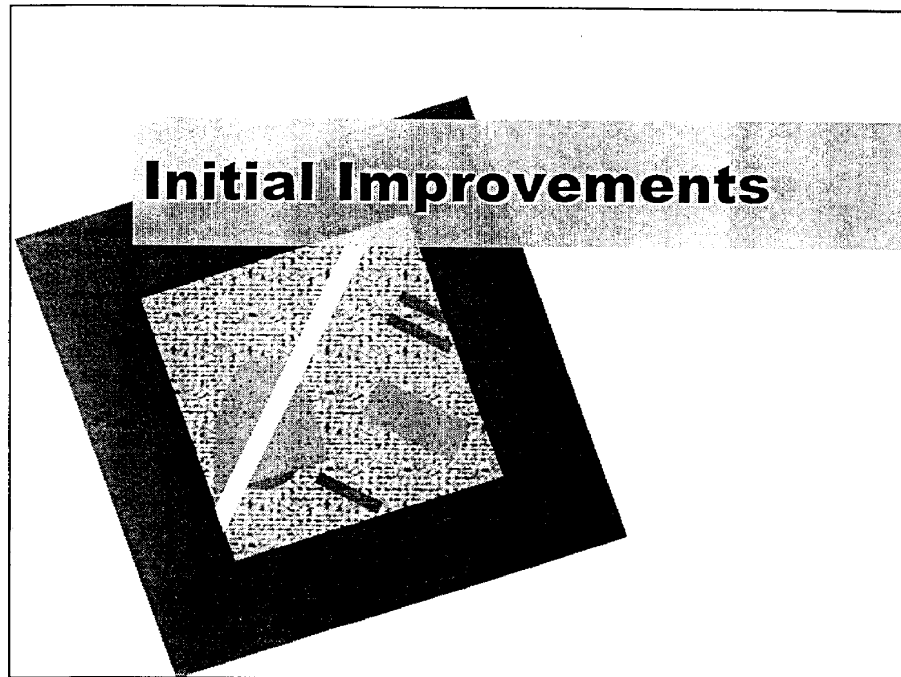


## Potential New Outfall Location in Bishop Cut

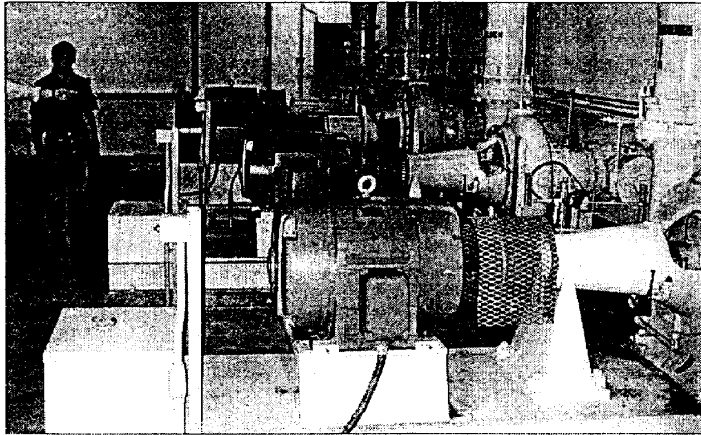


## Ongoing Regulatory Negotiations: Dilution Issues

- ▶ Dilution Credits Are Critical
- ▶ Model Data Is Not Confirmed
- ▶ RWQCB Requires Flow Monitoring & Tracer Study Data
- ▶ City Installing Flow Meter in Bishop Cut
- ▶ Additional Flow/Tracer Data Needed after the Outfall Is in Place



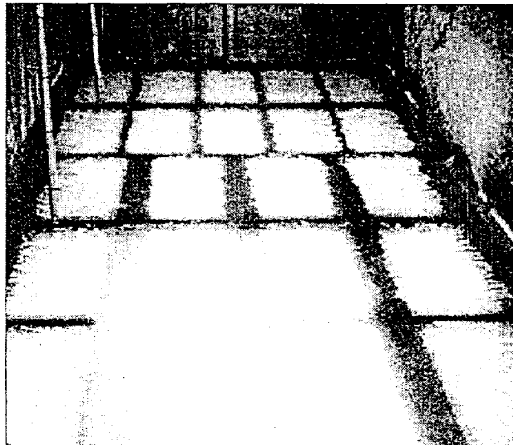
## **Additional & Upgraded Aeration Blowers**



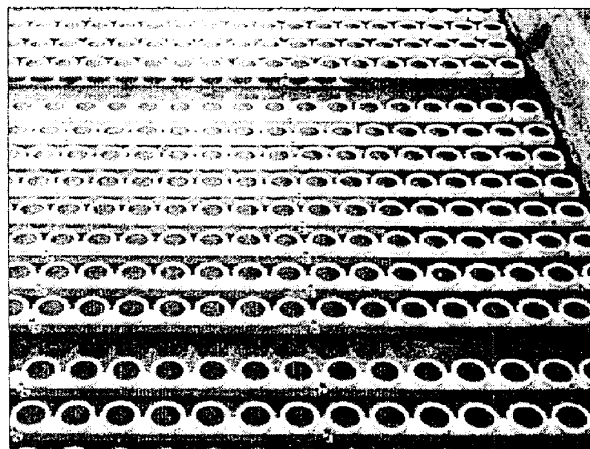
## **Existing Diffusers (Typ.)**

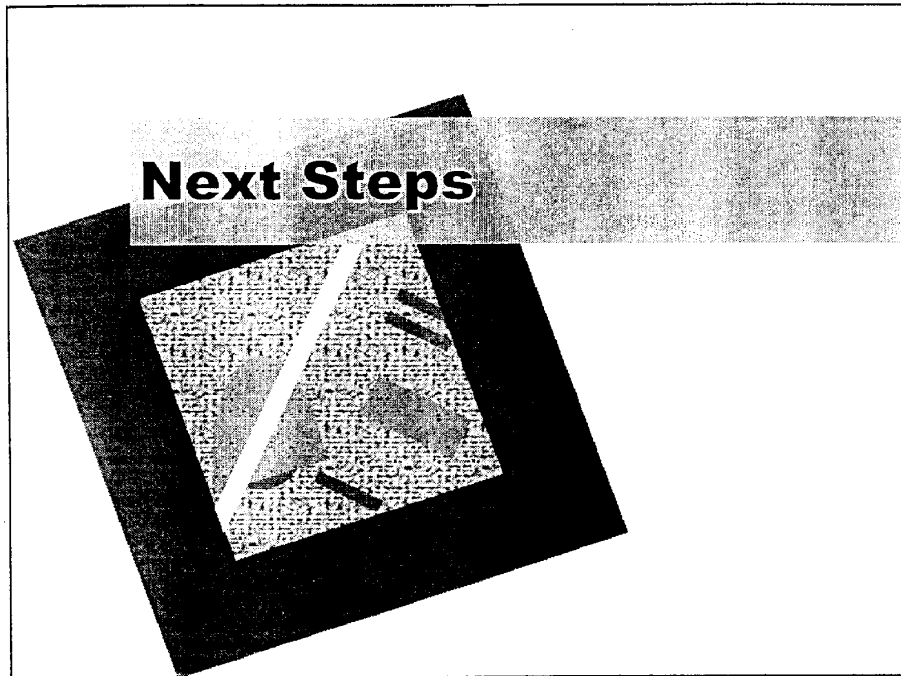


## Membrane Panel Diffusers



## Membrane Disc Diffusers





## Long Term Project

- Negotiate Purchase of Wetlands Site
- Prepare Environmental Documentation
- Complete Pre-Design of Facilities
- Ongoing Flow/Dilution Analyses
- Prepare Draft Revenue Program for SRF  
Loan Funding Process
- Submit RWQCB Permit Application
- Design of Facilities
- Construction of Facilities

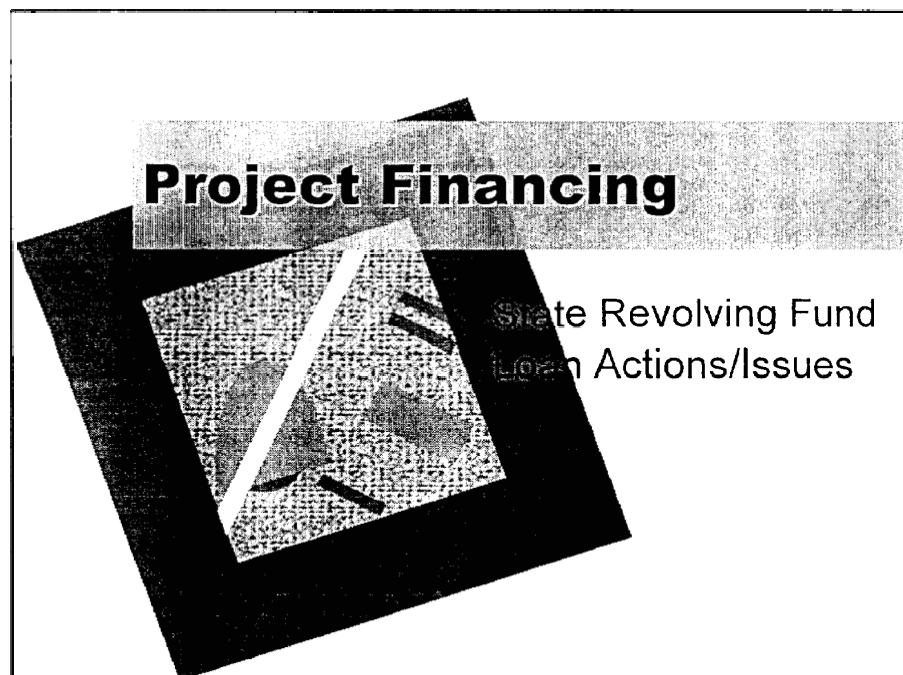
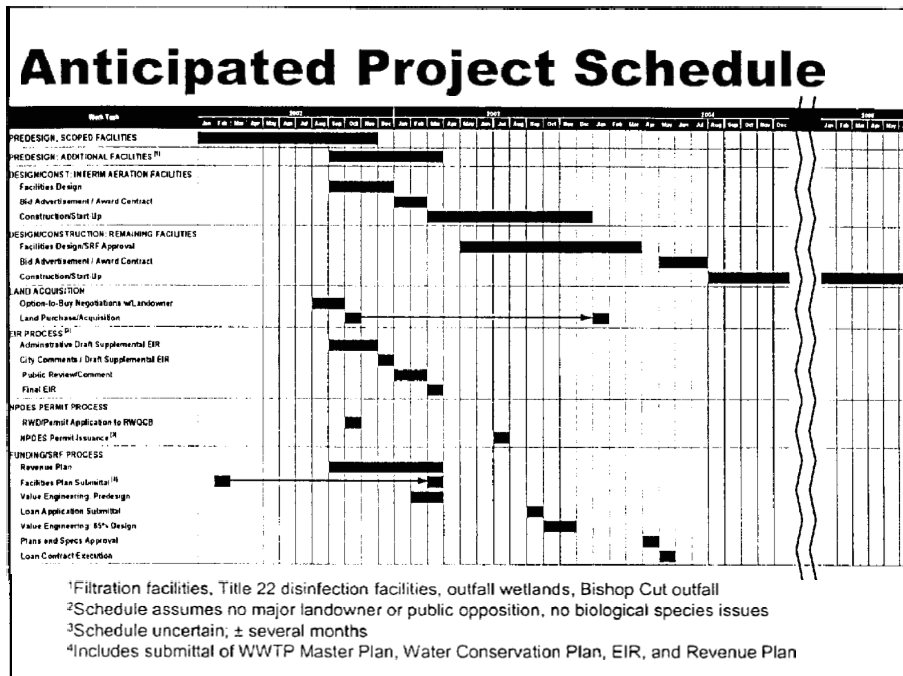
## **Interim Project**

- Design & Construction of Interim Blower Improvements
- Design & Construction of Interim Diffuser Improvements
- Installation of Secondary Clarifier Polymer Feed Equipment

## **Estimated Cost of Improvements**

- Interim Project: \$1.3 to \$1.8 million
- Long Term Project: \$35 to \$45 million\*

\* To be confirmed in Pre-Design





## **State Revolving Fund (SRF) Program Disadvantages**

- Rigid Requirements
  - Facilities plan
  - Environmental documents
  - Revenue program
  - Water conservation plan
  - Design review
  - Value engineering review
  - Contractual constraints
  - Others
- Additional Implementation Time
- Not All Costs Eligible

**WYA's General Experience:  
SRF preferred for large projects**

## **SRF Financing Advantages**

- Low Cost Financing
  - SRF: 2.6% for 20-year (max.) repayment
  - Current bond financing: 5.3% for 25 years
- Typically about 12-14% Less Impact on Rates/Fees

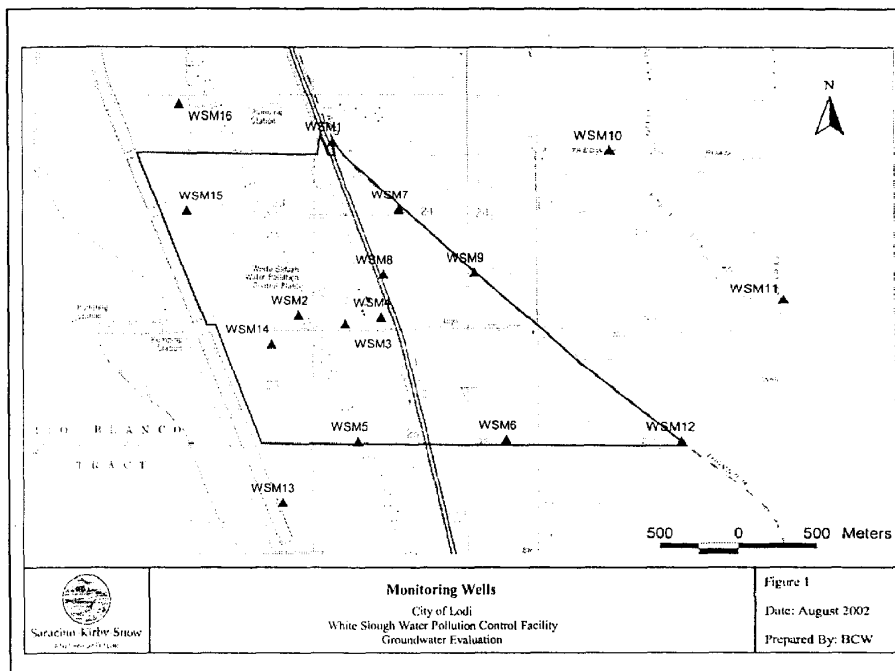


## **Additional Studies**



### **SKS Groundwater Monitoring Activities**

- October 2000: City submitted Groundwater Monitoring Report to RWQCB
- November 2000: RWQCB requested a workplan
- January 2001: City submitted a workplan to RWQCB
- January 2001: RWQCB approved the workplan

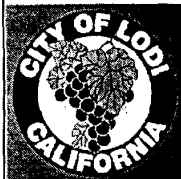


## SKS Groundwater Monitoring Activities

- ▶ April 2001: Construction of 9 new monitoring wells completed
- ▶ July 2001: Digital data loggers installed in all 16 (7 existing and 9 new) monitoring wells
- ▶ November 2001: Refined water quality sampling protocol implemented

## **SKS Groundwater Monitoring Activities**

- Ongoing Activities
  - Water level data collected digitally 24 hours per day
  - Water quality sampling conducted quarterly by City personnel
- Upcoming Activities
  - Data analysis to begin Fall/Winter 2002
  - Report preparation to begin Fall 2003



## **Questions & Answers**